Part II: Additional Reviews of Selected International Forestry Certification Systems - 2000.

PREPARED FOR

TRADE AND SUSTAINABLE DEVELOPMENT GROUP

MINISTRY OF EMPLOYMENT AND INVESTMENT/ MINISTRY OF FORESTS

BY

PETER WOOD

JANUARY 2001

ACKNOWLEDGMENT

Part II: Additional Reviews of Selected International Forestry Certification Systems - 2000 by Peter Wood was produced by the Trade and Sustainable Development Group of the Ministry of Employment and Investment/ Ministry of Forests. Acknowledgment goes to *Johanna den Hertog* (overview) and *Karen Tan* (design/ editing/ production).

You are welcome to quote sections of this Review. Part II: Additional Reviews of Selected International Forestry Certification Systems - 2000 is owned by the Government of British Columbia and protected by copyright law. It may not be reproduced or redistributed without the prior written permission of the Province of British Columbia. Please cite source and get permission from Karen Tan of the Trade and Sustainable Development Group (604-844-3116).

Copyright © 2001, Province of British Columbia. All rights reserved.

This material is owned by the Government of British Columbia and protected by copyright law. It may not be reproduced or redistributed without the prior written permission of the Province of British Columbia.

103-07252/

BRITISH COLUMBIA

PREFACE

I am pleased to present our latest report on international certification systems and standards, called *Part II: Additional Reviews of Selected International Forestry Certification Systems - 2000*.

This document was written by Peter Wood, on contract to the Ministry of Forests (Trade and Sustainable Development Group) between August 2000 and January 2001. It adds to the considerable work that was published earlier in 2000, titled *A Comparative Analysis of Selected International Forestry Certification Schemes*, and also authored by Peter Wood which is available on request in hard copy, and on our web site.[1]

This report focuses on new developments and certifications relevant to the Forest Stewardship Council in the United States, covers the Canadian Standards Association Standard for the first time, and reviews one of its certifications, and looks at developments in the American Sustainable Forestry Initiative that took place since the earlier report.

There are, as before, a couple of important caveats that must be kept in mind while reading this report:

- the various schemes chosen represent a SAMPLE of MANY national, international or regional schemes, and represent only a fraction of the total number of developments underway;
- as the world of forestry certification is dynamic and rapidly evolving, many of the facts represented here are necessarily temporal, and may soon become inaccurate as new standards or certification system changes take place. However, the information here provides useful analysis and updated information as of January 2001.

All such analytical and comparative work may assist in providing an international frame of reference as many certification systems begin to look at issues of 'equivalence', 'mutual recognition', 'harmonization' or 'global equity'.

Suggestions and comments on this report are encouraged and appreciated.

Johanna den Hertog, Special Advisor
Email: Johanna.denHertog@gems9.gov.bc. ca
Trade and Sustainable Development Group
Minister of Employment and Investment/ Ministry of Forests
February 2001

[1] Trade and Sustainable Development Group, responsible jointly to Ministry of Forests and Ministry of Employment and Investment, has developed the following certification web site: http://www.for.gov.bc.ca/het/certification. See the web site for regular updates on certification status in BC, and for published reports such as this one.

Copyright © 2001, Province of British Columbia. All rights reserved.

This material is owned by the Government of British Columbia and protected by copyright law. It may not be reproduced or redistributed without the prior written permission of the Province of British Columbia.

TABLE OF CONTENTS

1. INTRODUCTION 4

2. FSC 6
2.1 DEVELOPMENT IN FSC STANDARDS 6
2.1.1 ROCKY MOUNTAIN FSC REGIONAL STANDARD (2ND DRAFT) 6
2.1.2 FSC USA DRAFT NATIONAL STANDARD INDICATORS 9
2.2 CERTIFICATIONS 11
2.2.1 MENDOCINO REDWOOD COMPANY 11
2.2.2 NEW YORK DEC CERTIFICATION 13

3. CSA 17
3.1 CSA Z808/ 809: GENERAL OVERVIEW 17
3.2 CSA Z808-809 IN PRACTICE: CANFOR'S CERTIFICATION 23

4. THE AF&PA'S SFI PROGRAM 27
4.1 OVERVIEW OF NEW DEVELOPMENTS 27

5. BIOGRAPHICAL NOTE 29

6. APPENDICES 30

Copyright © 2001, Province of British Columbia. All rights reserved.

1. INTRODUCTION

In March 2000, the Trade and Sustainable Development Group released "A Comparative Analysis of Selected International Forest Certification Schemes"[2] written by Peter Wood during his internship with the Group, examining eight different certification systems. Since then, there have been many developments in the world of forest certification. This addendum builds on the initial comparative report by taking a look at several key developments in both certification standards and completed certifications.

First, developments within the FSC will be examined. The most recent draft of the Rocky Mountain FSC Regional Standard was issued in May 2000, section 2.1.1 will look at the development, structure and content of this most recent draft. October 2000 marked the release of the US National Indicators, a new approach to standards development initiated by FSC US to facilitate harmonization of the eleven regional standards in development in the US. These indicators will be reviewed on a descriptive basis in addition to an indicator-by-indicator commentary provided in Appendix A. The certification of the Mendocino Redwood Company will be examined as an example of double "certification", while the certification of New York's Department of Environmental Conservation will be examined as an example of public lands certification.

Next, the Canadian Standards Association's forestry-specific Z808-809 Sustainable Forest Management system will be described. In June of 2000, Canfor received CSA certification for three of their operations. Section 3.2 will summarize the certification of their Englewood Defined Forest Area (DFA) and examine the criteria used in the assessment.

[2] March 2000, 60p. Available from the Trade and Sustainable Development Group.

Copyright © 2001, Province of British Columbia. All rights reserved.

The American Forest and Paper Association's Sustainable Forestry Initiative (SFI) program underwent several changes in 2000. Section 4.1 will take a look at some of these, including the development of the Sustainable Forestry Board and the program's expansion into Canada.

It is important to remember that this report only covers selection of recent developments in certification, and does not represent an exhaustive list. Also, as forest certification is by nature a dynamic industry, many of the standards mentioned in this report will change over time as new drafts emerge, and this should be kept in mind when reading this document.

Copyright © 2001, Province of British Columbia. All rights reserved.

2. FSC

2.1 Development in FSC Standards

2.1.1 Rocky Mountain FSC Regional Standard (2nd draft)

Process of Development

In the spring of 1998, FSC-U.S. contracted with consultant Steve Thompson to coordinate a regional working group to develop certification standards for the Rocky Mountain Region. All 24 individuals that applied to be included in the group were accepted, including economic, environmental and social interests. They met for a total of 14 days on six occasions, including field trips. A first draft was issued March 1999 and released for public comment.

The group met in May 2000 to revise the first draft, joined by the FSC-US Standards Committee chairman and the BC Standards Development Coordinator. The revision process took into consideration the 16 public comments received, as well as results from a field test performed the previous summer on tribal lands.

Structure

This draft standard follows the FSC's 10 Principles and related sub-criteria closely. It is comparable in length and number of criteria/indicators to other North American FSC drafts. The draft reduces wordiness within the principles and criteria by placing all vocabulary to be defined in the glossary. This glossary contains well-developed definitions of terms such as high conservation forests (HCVF), what constitutes a plantation, long run sustained yield, and old growth.

Overview of Criteria

Environmental

This draft has a strong environmental focus, with more criteria under Principle 6 than under any of the other 9 principles. Section 6.3 and 6.5, in particular, offer very thorough, detailed indicators. It comes across as very pro-natural regeneration and anti-clearcutting, but allows exceptions for

Copyright © 2001, Province of British Columbia. All rights reserved.

when these might be appropriate. There are several other examples of this, where a tough requirement is stated, but then allows for exceptions, such as:

> *Long run sustained yield is not to be exceeded, unless historical circumstances make this not presently possible, in which case the harvest rate is to be restricted to that which will produce compliance as soon as reasonable/ possible*

There is also a heavy emphasis on maximizing habitat connectivity, and maintaining corridors used by migratory species. It gives consideration to the greater context of the lands which surround the property to be managed; if natural stands are rare in the surrounding area, but present in the ownership, then the most natural stands of the forest to be certified are protected or restored.

Environmental attributes to be addressed in the environmental impact assessment are listed as "*including, but not limited to*". Other jurisdictions such as the Pacific Northwest have referred to this list as items that are "generally appropriate" (but not mandatory) to assess. One requirement (6.5.x) that appears to be fairly unique, is that old man-made structures (such as dams and road structures) be removed if they impede fish passage (taking into account legal/ environmental considerations).

This draft appears to be slightly more lax in regards to using controversial substances for forest management. In regards to pest management, chemical methods are permitted as long as it is justified in a written prescription, and the landowner shows a commitment to reducing their use. Exotic agents are allowed where other methods have failed to control pest species (subject to peer review), and have been proven to not be ecologically invasive. Although genetically engineered species are not permitted, "widely accepted" genetically *improved* species (simple Mendellian crosses) are.

Aboriginal

Copyright © 2001, Province of British Columbia. All rights reserved.

In contrast to other US FSC drafts, this draft seems to give greater emphasis to aboriginal issues. It requires adherence to tribal laws and court decisions, and specifically mentions treaties under "binding agreements respected" (1.2). Aboriginal intellectual property rights are described as "indivisible" from territorial rights under criteria 3.4.

This standard is consistent with the Pacific Northwest draft in its application of "free and informed consent" clause. On designated tribal lands, free and informed consent must be secured, with the indigenous people taking a lead role if desired. On lands ceded by treaty, where land claims are pending, or where there are customary use rights, it only requires that the indigenous people "are consulted", without prescribing what that entails. In the event that there exists a dispute with aboriginal people, it defers to the dispute resolution mechanism cited under P. 1.4.a.

Social/ Economic

This draft includes very specific requirements in regards to community relations, workers rights, and economic benefits from the forest to be achieved. Consistent with other regional drafts, the phrasing of the related indicators allows some room for interpretation. For example, it requires that the applicant *supports* local, value added production (P. 4.1), without prescribing specific ways of doing this. It also requires (P. 5.2) that they demonstrate effort to maximize value *where feasible and possible*, to diversify forest use *where consistent with forestry goals*, and to pursue NTFP opportunities *where appropriate*. It is also required that the sale of forest products is scaled so as to encourage bidding and competition by local businesses *whenever ecologically and economically possible*. A unique requirement (8.2 a) is that the licensee be required to consider market conditions in relation to the analysis of forest productivity.

* * *

The next Rocky Mountain draft is expected to be issued in early 2001, after undergoing a harmonization process with the FSC-US National Indicators, before submission to FSC for approval.

Copyright © 2001, Province of British Columbia. All rights reserved.

2.1.2 FSC USA Draft National Standard Indicators

The FSC USA Standards Committee is composed of a chair, a coordinator, a nine member Forestry/ecology subcommittee, a five member Social sub-committee, as well as three ex-officio members from FSC International, SCS and Smartwood, respectively. Included on the team are professional foresters, academics from several fields, consultants, and ENGO representatives. The committee was charged with developing a National standard for the US, and released a first draft for public consultation on Oct 1st , 2000. In the standard it asserts that FSC-US is "the only duly constituted entity of FSC International in the U.S., (with the) final responsibility for the content and disposition of the regional standards".

The intention is that this standard will serve as a template to guide the 11 regional drafts in development towards a consistent format and equitable bar across these jurisdictions. This is to be considered a "minimum standard"; regional standards development committees must state rationale for substantially diverging from the given indicators, or FSC-US will not forward the standard on to FSC International for approval. In support of this, the National initiative includes appendixes (A: General Review Parameters, and B Editorial Review Parameters) stating reasons why indicators of regional draft standards might be modified in the interest of harmonization.

This appears to be a very strong "top-down" approach, compared to other jurisdictions which have emphasized the regional, local participation aspect of FSC standards development. In fact, when the national standard was released, all links from the FSC US website to regional drafts were suspended, redirecting traffic towards the national standard. There seems to be a renewed emphasis to hasten the development of regional standards. Following approval by the board, the national indicators will be given over to the regional working groups, whose members will be asked to begin completion of their regional standards.

The standards appear to be more flexible in terms of wording, and less detailed than the two recently released regional USA drafts (PNW and Rockies). This was reflected in the feedback

Copyright © 2001, Province of British Columbia. All rights reserved.

received from these groups on the FSC US website. For example, a member of the PNW Working group expressed concern about the lack of quantitative indicators and restrictions on clearcut size.

While most of the public feedback consisted of brief notes, some submitted lengthy essay-style replies. Main concerns that came up were that the requirements would effectively exclude small landowners due to excessive costs. Many felt the draft far exceeded what is required by state and federal law, and that this was an attempt to usurp government power and local planning authority. A frequent complaint was that the standards were an intrusion on private property rights (to which a member of the Rockies WG repeatedly replied "it's a voluntary standard"). A few participants felt that attempting a national approach was inappropriate, not able to accommodate regional differences. Interestingly, the AFPA offered a great deal of feedback on the standard, consistently stating that it held unreasonable expectations for US forestry.

Appendix A contains a summary of some of the notable aspects of the national criteria and indicators, followed by a few highlights of the comments received on the FSC US standards website.

Copyright © 2001, Province of British Columbia. All rights reserved.

2.2 *CERTIFICATIONS*

2.2.1 MENDOCINO REDWOOD COMPANY

In June of 1998, The Mendocino Redwood Company (MRC) acquired 93,930 ha of redwood forest lands (located throughout Mendocino County north of San Francisco) from Louisiana Pacific. Soon after purchasing the property, the MRC decided to pursue certification of its forest lands.

What is unique about their certification efforts is that they chose to enlist both SCS and Smartwood, even though only the approval of one is needed for FSC certification. The process started with a preliminary evaluation by SCS ("Phase 1") in the Fall of 1998. In the summer of 1999, a full evaluation was conducted ("Phase 2") in conjunction with Smartwood; although they used a single team of experts, the accredited protocols of each certifier were evaluated separately, according to their respective scoring systems. MRC did not pass the assessment, and pre-conditions were issued at the end of the summer of 1999. In the summer of 2000, MRC approached both certifiers to resume the certification process, as they felt the pre-conditions had been fulfilled. ("Phase 3"). MRC underwent a final assessment, and was granted certification by both certifiers in October 2000. Out of a possible 100 points, MRC received a score (from SCS) of 82, 83 and 80 in the areas of timber resource sustainability, forest ecosystem maintenance and financial and socioeconomic considerations, respectively (80 is the minimum to achieve certification).

The annual harvest in the last year of LP ownership was 48 million board feet; under MRC that has been reduced to around 40 mbf. Home Depot is the primary buyer of MRC products. Currently their harvest consists of 60% redwood, 40% Douglas fir; recommendations were made to use some of the lesser species commercially.

Copyright © 2001, Province of British Columbia. All rights reserved.

The MRCs long term commitment to SFM is mentioned only briefly, through stating that the MRC owns the property as a "titled, fee simple property with clear tenure", with no interest in converting it to uses other than forestry. Although they state that MRC is "genuinely committed to the FSC Principles and Criteria", they do not mention how this was demonstrated, beyond being involved in the development of the FSC-PNW draft. The initiation of a carbon sequestration pilot project was cited as a demonstration of long term commitment.

There was very little mentioned about indigenous peoples rights in the public summary, aside from stating that the MRC has had little interaction with the tribes, but that the staff foresters comply with State requirements regarding giving notice to nearby tribal groups. There exists a "permit system" to allow traditional resource use by the tribes.

In terms of meeting social criteria, both certifiers point to the fact that MRC pays their employees more than the previous owner, LP did. The company's vertical integration encourages the production of value-added products. However, there was a great disparity in public input on this issue. Overall, there was a lack of trust in regards to MRC "changing their ways", and that actions will speak louder than words. There is still wide-spread disapproval from the environmental community at the rate of cut; some objected to any cutting on this property whatsoever and openly stated that they will never be satisfied with MRC practices. Other concerns included the lack of public knowledge of the management plan (long term), inadequate HCVF reserves and the use of clearcutting.

One of the preconditions from the 1999 assessment was that MRC create a more comprehensive policy on old growth, incorporating FSC-Pacific Northwest (PNW) draft terminology. MRC's previous policy was that any tree over 48" in diameter or 250 years old would be considered old growth.. Under the new PNW system, MRC identified 130 acres of 14 distinct "Type 1" stands ("never harvested") to be permanently protected, and 1,250 acres of Type 2 old growth ("significant old growth characteristics") in which only low-impact silviculture is permitted. Although the rest of the company's land consists primarily of second growth, there are estimated to be

Copyright © 2001, Province of British Columbia. All rights reserved.

50, 000 residual old growth trees scattered within this. These are to be preserved according to a policy based on characteristics such as age, size, species and function; this survey is to be completed within 9 months of certification. Overall, there is an intent to return the land back to a more natural composition, away from hardwood.

Chemical use is a contentious issue in this certification. Although the company has an herbicide-alternative study in place, some people participating in the public consultation objected to any use, especially of the herbicide "Garlon". This is one area in which the two certifiers obtained different results in their assessments; Smartwood cites MRCs herbicide use as a "weakness" whereas SCS does not.

While receiving endorsement (including an advertisement in the NY Times by FSC-US) from major environmental organizations (such as Natural Resource Defense Council and WWF), this certification has been criticized by some environmental groups (such as the Save the Redwoods/ Boycott the Gap campaign) as being a "worthless green label". To date there has not been a formal appeal.

2.2.2 New York DEC Certification

In early 1998, the National Wildlife Federation (SmartWood's northeastern US affiliate) was contracted by the New York Department of Environmental Conservation (NYDEC) to perform a certification assessment of the state's public lands, as a pilot project. The NYDEC controls 705,596 acres of forest lands; primarily second growth hardwood with 35% softwood plantations. The main products coming from these forests are sawtimber, pulpwood, chipwood and firewood. Funding for the process was provided by the Great Lakes Protection Fund. That summer, a two week field audit was conducted, and a public consultation process involving 46 people was initiated. Following this, preliminary findings were circulated to local experts in the forest industry as a "key informant" survey. In December 1998, a first draft of the assessment report was issued to the NYDEC for review; their comments were received by Smartwood in February 1999. In June

Copyright © 2001, Province of British Columbia. All rights reserved.

1999, a final draft was submitted to the Smartwood Certification Committee and it received approval later that month. NYDEC announced the certification formally on January 21, 2000.

The standard used in the assessment was the April 1997 Northeast USA Smartwood Regional Guidelines. These do not follow the standard FSC International 10 Principles, opting instead to use the following categories:

1. Forest Security
2. Management Planning
3. Sustaining Forest Production and Resource Quality
4. Forest Operators
5. Environmental Impacts
6. Social
7. Economic Viability
8. Tracing/ Tracking

Each of the 79 indicators is assessed according to a scoring system between 1 and 5, 1 meaning "extrememly weak" performance with pre-conditions required, and 5 indicating "clearly outstanding performance".

Economic/ Social

NYDEC uses a competitive bidding process for assigning harvesting contracts (worth over $2500), which the assessment team viewed as beneficial in achieving maximum economic benefit from the forest. This is despite comments received from the public during the assessment that this process ignores the performance record of the bidding companies. The standard does not stipulate any strict requirements for local hiring, only that locals are considered for employment.

Although there is no mention of long-term commitment to FSC's principles and criteria, Smartwood notes that due to the fact that this land is managed by government (as opposed to industrial/ private, etc) there is a greater likelihood that the land will remain forested and managed for the long-term. NYDEC received a score of 5 in terms of dedication to long-term management.

However, the State government's commitment to NYDEC's mission is described as "*stronger in words than in actual financial expenditure*", with the amount of forest revenues re-invested in the land being inadequate. The NYDEC obtained approximately $4 million in revenues from the sale

Copyright © 2001, Province of British Columbia. All rights reserved.

of its timber in the year prior to certification. There is concern, however, that these funds are not being re-invested into long-term management, and Smartwood initially drafted conditions that the State of New York should develop a strategy to address lack of funding for lands under their control, and that the NYDEC should propose legislation to dedicate forest revenues exclusively to NYDEC for forest management activities. However, these were downgraded to recommendations during the Smartwood headquarters review stage when legal advice suggested that this was beyond the purview of the certification process.

Indigenous People

There was very little mention of consideration given to aboriginal peoples, and there are no criteria specifically requiring their consultation. The report states that it is aware of native land claims on the public lands, and that the State is currently in the process of developing policies to address these. In fact, one regional forester indicated that there were "*severe problems with land title and access... due to disputes with a Native American community*" in two regions. Despite this, the NYDEC scored 4 (Favourable performance) on this criteria (2.1, "land title is clear and secure..."), with the only (optional) recommendation being that boundary lines should be better defined, and that "*NYDEC should address access and right-of-way problems in regions where foresters have identified existing conflict*".

Environmental Criteria

The assessment team was generally impressed by the consideration given to environmental impacts and the silvicultural systems used by the NYDEC. There was concern, however, that the majority of wildlife habitat considerations were given to game species only (notably deer and turkey) and recommended they identify other species dependent on the forest and outline conservation plans for these. Although the standard against which this assessment was done requires that "fragile, unique or uncommon natural communities" within the landscape context are designated as reserves or Special Management Zones as appropriate, it does not prescribe any set minimum area for these. Habitat connectivity was identified as a problem, stating that NYDEC

Copyright © 2001, Province of British Columbia. All rights reserved.

failed to recognize that the forest road network may represent a barrier. It was recommended that future land acquisitions attempt to close gaps between individual parcels of forested land. forest health monitoring.

Copyright © 2001, Province of British Columbia. All rights reserved.

3. CSA

3.1 CSA Z808/ 809: General Overview

Background

The Canadian Standards Association (CSA) is a non-profit national standards writing organization, and has developed standards and certification program in a variety of fields. The forestry-specific CSA Z808/809 (A Sustainable Forest Management (SFM) System: Guidance Document/ Specifications Document) standard was developed by a 33-member technical committee composed of academics, members of government, NGOs and forest industry representatives, and was approved in 1996. Designed to be consistent with the ISO 14001 environmental management system, the CSA standard demands that forest companies must have a comprehensive SFM system established in addition to an ongoing public participation process in order to comply. The SFM must satisfy a minimum of 21 critical elements (listed below), derived from the Canadian Council of Forest Minister's Criteria and Indicators Process.

Summary of the System

Applicants seeking CSA certification must first identify the Defined Forest Area (DFA) that they wish to certify. They then must undergo an independent third-party audit of their SFM system, which verifies that it includes a declaration of commitment, public participation process (PPP), management system elements and a commitment to continual improvement.

Commitment

This is a written policy, approved by the applicants senior governing body. It includes a commitment to achieve and maintain SFM, provide participation opportunities by aboriginal people in addition to the general public, provision of health and safety safeguards, and the pursuit of SFM-focused research.

Public Participation

Copyright © 2001, Province of British Columbia. All rights reserved.

There must be evidence that all interested parties with an interest in the DFA were encouraged to participate, including aboriginal communities and forest users. There must be a clearly defined process (agreed upon by participants), with defined goals, guidelines, methods and dispute resolution mechanism. The auditor ensures that all elements of the SFM were part of the consultation process. These include:

- the identification of values, goals indicators and objectives
- the designing of the SFM system (including monitoring and evaluation aspects)
- review of performance indicators (making recommendations for improvements, feedback provided to participants

Finally, there must be evidence that sufficient access to information about the DFA was made available to participants, allowing for differences in linguistic, cultural, geographical and informational needs of the participants. Communication with participants must be ongoing in regards to the DFA, ensuring that all input is considered and responded to.

Management system elements

Preparation

The DFA must be defined, with ownership and management responsibilities established. A value set must be established, developed by the public participation process, that meets the CCFM criteria and establishes goals to be met. The PPP selects indicators to be associated with each value set, then sets clear, time-limited and quantifiable objectives to assess performance of the SFM against these indicators.

Planning

The auditor assesses the current status of the applicant's SFM system and ensures that any applicable legislation, regulatory requirements, and aboriginal/ treaty rights have been complied with and respected. Health, safety and environmental risk is assessed, and projections are made in respect to future indicator levels. A long term SFM plan must be prepared for each DFA, including

Copyright © 2001, Province of British Columbia. All rights reserved.

- results obtained from the previous planning period,
- a statement of values, goals, indicators and objectives,
- current quantitative information for each indicator
- assumptions/ methods used in forecasting
- a description and schedule of forest activities to come, and how they link with the bigger management plan
- monitoring procedure

Implementation

The auditor assesses that all involved in the SFM system are aware of their responsibilities in regards to implementing the plan, including legal responsibilities and contingency plans. Implementation requires that there is proper delegation of responsibility, control over non-conformity, and proper documentation of the SFM system. An annual SFM system report and summary of external audits must be made available to the public.

Measurement/ Assessment

The auditor assesses that objectives for each indicators are measured and assessed according to schedule, with results compared to those that were predicted, and that all applicable legal requirements and regulations are met or exceeded.

Review/ Improvement

Objectives are reviewed according to a specified schedule, to consider new information and account for any variances from predicted implementation.

Copyright © 2001, Province of British Columbia. All rights reserved.

Continual Improvement

The auditor will seek to ensure that the applicant is incorporating results from assessments of past actions into the SFM system.

The Criteria and Elements

Although each individual applicant is responsible for establishing their own goals, indicators and objectives (in coordination with the public participation process), these must be consistent with the 6 criteria and 21 elements defined by the Canadian Council of Forest Ministers (listed as Appendix A of the Z808). The following section will look at how the CCFM Criteria and Critical Elements approach the broad topics of environmental, socioeconomic and aboriginal issues.

Environmental

Four of the six CCFM criteria are directly concerned with environmental protection. The first, "Conservation of biological diversity", requires that ecosystem, species and genetic diversity in the DFA are maintained over time. The second criteria is, "maintenance and enhancement of forest ecosystem condition and productivity". Forest health is said to be conserved if the combination of human and non-human stresses on the system do not exceed the normal range of variability. Ecosystem resilience is conserved if they are able to persist, absorb change and recover from disturbances. Productivity is conserved if the ecosystem is capable of supporting all naturally occurring species.

Criteria 3 specifically addresses the conservation of water and soil resources, requiring that rare physical environments are protected, and that permanent loss of forest area to other uses is minimized. It requires that water quantity and quality are maintained, and that the soils ability to sustain forest productivity is maintained within characteristic range. Criteria 4 addresses the larger matter of the role that forests play in global ecological processes. It requires that the filtering

Copyright © 2001, Province of British Columbia. All rights reserved.

and recycling capacities of the forest are maintained, extraction is balanced with growth, and that forest lands are protected from deforestation or conversion to other uses.

Socioeconomic

Both Criteria 5 and 6 address socioeconomic concerns. Criteria 5 (Multiple Benefits to Society) states that the rate of extraction should not exceed the long-term productive capacity of the resource base. It also requires that there be a mix of market and non-market goods derived from the resource, and recognizes that it is essential that a competitive rate of return on these products is maintained. The standard also gives higher level socioeconomic considerations, such as evaluating the manner in which wealth obtained from the forest sector is distributed to society, and measures this in the contribution it makes to the gross domestic product and total employment in all forest-related sectors.

Criteria 6 (Accepting Society's Role for Sustainable Development) includes the requirement that SFM must reflect social values. Management must acknowledge the role that affected parties have in SFM decision making, and empower those parties by providing them with the information needed to make those decisions. Overall, SFM should increase society's collective understanding of the forest ecosystem it depends on.

Aboriginal

Criteria 6 contains provisions related to aboriginal peoples. It requires that duly established Aboriginal and treaty rights are respected, and that the special and unique needs of aboriginal groups are respected and accommodated in forest management decisions. The emphasis here is that it is through various levels of government in Canada that legal obligations will be met in respect to these rights, and that managers demonstrably fulfill any consultation or other obligations relevant for that DFA.

Copyright © 2001, Province of British Columbia. All rights reserved.

The CSA Z808/809 Standard and the Regular Review Cycle

Integral to this standard is a review cycle which happens every five years. During this period, the standard is reviewed based on experiences with the standard. The need for clarification as a result of the standard's application is brought to the multi-stakeholder CSA technical committee's attention, and additional public input is received and incorporated. 2001 marks the end of the most recent review cycle.

Copyright © 2001, Province of British Columbia. All rights reserved.

3.2 CSA Z808-809 In Practice: Canfor's Certification

Canfor has had an interest in certification since 1993, and played a role in the development of the CSA SFM standard. After successfully certifying all of its forest lands to the ISO 14000 EMS standard, it committed itself to seeking CSA certification in the summer of 1999. To date, it has developed three separate sustainable forest management plans: for its Grande Prairie (Alberta) operations, for the Chetwynd Falls DFA (TFL 48) in the interior, and one for its coastal operations at Englewood (TFL 37). The following will examine the Englewood SFM plan and the Public Advisory input checklist. KPMG granted Canfor their CSA-Z809 certification in June 2000.

DFA Profile

The Englewood DFA encompasses 196,264 ha of land under 4 associated landscape units on Vancouver Island, with the closest communities being Port MacNeil and Woss. In early 2000 Canfor contacted potentially interested parties and held the first public advisory committee in February 2000.

Public Input: Indicators and Objectives

According to the standard, all companies pursuing CSA Z808-809 certification must satisfy the 21 criteria and critical elements in the CSA standards, which derived from the CCFM Criteria and indicators adopted by government. The specific indicators and objectives used to determine if these criteria are met is set for each DFA according to the input received by each public advisory group. With input received from public consultations, Canfor devised 48 indicators and objectives for its Englewood operations. Examining these indicators and objectives is the best way of getting a feel for exactly how hard a standard the CSA can be to meet.

Many of these indicators have, through the public advisory committee, evolved into very measurable minimums/ maximums that must be attained within a time limit. For example, the indicator (24) concerning the amount of roads in the DFA states that "future and existing roads

Copyright © 2001, Province of British Columbia. All rights reserved.

must not occupy more than 3.5%(+/-2%) of the productive forest base". Objectives for all indicators are not as easily quantifiable, and some do not have fixed numbers attached or dates by which compliance must be achieved.

The following sections will look at the criteria that Canfor had to meet in order to achieve certification, grouped according to ecological, socioeconomic and aboriginal considerations.

Ecological

Roughly 30 of the 48 indicators address ecological concerns. Although the first goal (1a-1-1) is fairly broad ("manage forests to conserve ecosystem diversity throughout the DFA"), the indicators and objectives effectively develop this into specific details such as measurements related to abundance of old growth and seral stage representation. In addition to objectives regarding the entire forest, there are also specific requirements related to individual species or types of species. For example, 6000 ha is stated as the minimum winter range that must be conserved for the use of ungulates, with a commitment for a strategy to be developed by March 2001. Canfor has identified 67 black bear dens in the study area, and noted that denning bears avoided forests in early seral stages as well as those at low elevations. With respect to black bears, the indicator requires that Canfor develop a management study.

In terms of rare species, Canfor's objective is to ensure that no species is "uplisted" as a result of impacts from their operations, and the objectives are fairly specific about the minimum amount of protection that is to be awarded to specific rare/ vulnerable species. For example, Objective 9 is to maintain 10% (+/- 2%) of the original suitable marbled murrelet habitat by Land Unit.
There is also a heavy emphasis on research and inventory projects. Forest example, objective 41 requires that Canfor classify 950km of unclassified streams before the end of 2003.

Copyright © 2001, Province of British Columbia. All rights reserved.

Socioeconomic

The standard requires that ongoing local community input is facilitated through the Public Advisory Committee, and that all public inquiries are responded to within 30 days. There is an emphasis on Canfor's commitment to maintaining recreational access to the region, including the eight campsites provided by Canfor and the many hiking and interpretive trails.

To address the issue of local economic benefits, Objective 34 states that Canfor must make available a minimum of 50,000m^3 of its harvest for local purchase at a fair market price, although there is no specific requirements related to local processing or producing value-added products. "Employment opportunities" is listed as an indicator under one of its goals to achieve the value of economic viability. This is to be measured by indicator #31, "harvest the AAC allocation over the 5 year cut control period". This requirement is designed to discourage boom-bust harvest cycles and provides for more consistent employment levels.

Indicator 33 states that shareholder value (measured in dollars per cubic metre per year) is used to assess the goal of promoting Canfor "as a globally competitive forest products company". Its related objective is to "maintain the annual allowable cut (AAC) with a profit as indicated by positive contribution to shareholder value".

The issue of minimizing waste is addressed specifically in Objective 35, stating that over the DFA there is to be less than 50m3/ha left behind in annual billable waste in the case of old growth timber, and 25m3/ha for second growth.

Aboriginal

There are two indicators that deal specifically with First Nations. Canfor is required to ensure that all forest development plans and management plans must be made available to First Nations for review, and that opportunity for participation in the Public Advisory Committee is "100%". In the

Copyright © 2001, Province of British Columbia. All rights reserved.

management plan, Canfor notes that there are three local First Nations identified in this region, and commits to providing cedar logs and other materials for their traditional use. An additional indicator relevant to First Nations requires that special management is performed around zones of cultural importance; although this applies to both indigenous and other cultural sites, consultation is required with regard to the former.

Management Plan

In support of each of its three DFA applying for CSA certification, Canfor has developed a management plan. For the Englewood DFA, the plan was over a hundred pages in length, including detailed appendices concerning Canfor's environmental policies and commitment, the terms of reference used in the public consultation, and a detailed description of which personnel are responsible for the implementation of each objective.

In the plan, Canfor organizes the information with the following headings for each of the 48 indicators and related objectives:

- **Justification:** This section identifies the basis of and support for how the indicators relate to the overall values, and presents a justification for using that particular indicator.
- **Current state and Objectives:** Summarizes the current state (if known) and objective levels of the indicator
- **Forecasting:** Where applicable, this section states the assumptions and methods used to project future conditions that may have an impact on attaining the objective.
- **Practices:** States what actions are required to achieve the objectives, or to quantify the current state of the indicator involved in meeting the objective.
- **Monitoring:** Summarizes the sources of monitoring information used.
- **Responsibility:** Identifies personnel responsible for quantifying and monitoring indicators.

Copyright © 2001, Province of British Columbia. All rights reserved.

4. THE AF&PA'S SFI PROGRAM

4.1 OVERVIEW OF NEW DEVELOPMENTS

The American Forest and Paper Association's Sustainable Forestry Initiative (AFPA - SFI) was initiated in September 1994. Since then , 152 companies and licensees representing a total of 72 million acres of forest land have participated in the SFI program (56 million acres are expected to be 3rd party certified by 2001, see Appendix B for a detailed list of companies participating in the program).

Since its conception, the AFPA has expelled 16 members for failure to comply with the SFI, a mandatory requirement for membership.

Recent developments in the SFI program include:

- **Expansion into Canada**: Recently, SFI has expanded into Canada, and a few large certifications have boosted the total acreage covered by SFI substantially. Interfor's certification (7,900,000 acres) represents the bulk of the total Canadian acreage verified, both Crown and Private (14,000,000).

- **The Sustainable Forestry Board (SFB):** In September 2000, AFPA announced that a multi-stakeholder sustainable forestry board (SFB) was going to be developed to manage the SFI program. This was largely in response to criticism that the SFI program was in effect an industry-controlled "self-approval" program.
    - AFPA states that it is "*willing to risk outside stakeholders setting the standard if it means that the standard will have credibility throughout the conservation community*".
    - The SFB is to oversee the management of the SFI Standard, Verification Procedures, and Program Compliance, soliciting input from "a broad range of stakeholders".

Copyright © 2001, Province of British Columbia. All rights reserved.

- the SFB will have 15 members, 40% AF&PA members, the rest coming from a diverse range of groups (including both Federal and State *public officials*, academics, ENGOs, logging professionals, non-industrial landowners)
- Although the initial composition of the team was chosen by 4 senior AF&PA members and 2 representatives from conservation funds, future non-AF&PA vacancies on the SFB will be chosen by the SFB itself.

A quick look at the current SFB reveals that the board is mostly composed of forest industry representatives, a forestry academic, two conservation groups, and the State Forester from Minnesota.

- **Amendments to the 2000 SFI standard**:
  - performance measures added regarding harvest level sustainability
  - wildlife habitat and biodiversity objectives combined to reduce redundancy
- **Amendments to the 1999 SFI Verification documents:**
  - wording changed to accommodate 3rd party certification
  - clarified that significant findings of non-conformance can result in failure
- **Mutual Recognition Agreement with the American Tree Farm (ATF) System:**
  - the two agree that the "intent, outcome and process" of each-others programs are substantively equivalent
  - 25 million ha of small ownerships are certified under the ATF system

Copyright © 2001, Province of British Columbia. All rights reserved.

5. Biographical Note

Peter Wood returned to work for six months with the Trade and Sustainable Development Group after a brief hiatus following his year long internship. In addition to writing the specific certification reports presented above, he also performed work on various elements of certification across many different schemes and international jurisdictions, and kept the Group up to date on emerging international developments.

Copyright © 2001, Province of British Columbia. All rights reserved.

6. APPENDICES

A. FSC US National Indicators

The FSC-US Standards Development Committee developed national indicators for each of the FSC's 10 Principles and associated criteria, listed below in the left column.. The right column offers some thoughts on a selection of these indicators.

FSC International	FSC US Draft
Principle 1 Compliance with Laws and FSC Principles	
1.1 Management respects local & national laws	1.3: Includes "American Indian Treaties" as one of the binding documents. Only international treaties ratified by the US have to be complied with.
1.2 All fees, taxes paid	
1.3 Binding international agreements respected	
1.4 Conflicts between laws and FSC Principles dealt with on a case-by-case basis	
1.5 Management areas protected from illegal harvesting, unauthorized activities	
1.6 Managers demonstrate long term commitment to FSC P&C	1.6: Management plan does not have to endorse the FSC P+C until AFTER the certification is granted. No description of what "endorsement" entails. Forest owner/ manager advocates sustainable forest management in public/ professional arenas (note: this is a requirement in the AF&PA's SFI). A new track record must be established if the manager/owner becomes de-certified due to non-compliance.
Public comments on Principle 1: Compliance with laws, FSC only fully ratified treaties should be taken into account, since "signatory" treaties haven't necessarily been approved though a democratic process requiring that an applicant abide by "relevant" court decisions: too vague/ subjective	
Principle 2	
2.1 Clear long term tenure and land use demonstrated	
2.2 Local communities with legal or customary right have control over forest operations unless they willingly delegate control	only applies "free and informed consent" clause to lands where legally recognized rights have been established; customary/ traditional use areas require consultation with concerned groups
2.3 Dispute resolution mechanism in place; presence of dispute may preclude certification	2.3c: If negotiation fails, federal, state, local and/ or tribal laws are employed to resolve land tenure claims
Public comments on Principle 2: Tenure don't need to "re-invent the wheel" re: property laws	

Copyright © 2001, Province of British Columbia. All rights reserved.

FSC International	FSC US Draft
Principle 3	
3.1 Indigenous people control forest mgmt on lands unless they delegate control with free and informed consent	explicitly states that 3.1 applies to lands under legal control of tribes
3.2 Forest mgmt shall not diminish resources or tenure rights of indigenous people	applies to lands which indigenous people have legally established ownership as well as lands claimed, and those ceded by treaty requires that the forest owner or management **invites** their participation
3.3 Sites of special significance are identified and described, and protected	requests the participation and input
3.4 Indigenous peoples compensated for use	discusses protection of intellectual property rights
Public comments on Principle 3: Indigenous Peoples criteria does not allow for the input off 1000's of indigenous people who do not have access to tribal lands, or whose lands are not recognized federally concern that P3.1 does not recognize/ comply with US law Rockies WG coordinator commented that these indicators are "even better than theirs" if the FSC is sincere about environmental protection, all landowners should be subject to same standard of protection	
Principle 4	
4.1 The communities within the mgmt area are given employment, training opportunities	4.1.d "living wage" compensation: defined as a wage sufficient to maintain a family of four at or above the poverty level 4.1.g addresses employment equity
4.2 Forest mgmt meets or exceeds all applicable health/ safety regulations for employees and their families	
4.3 Worker's right to organize and voluntarily negotiate with employers guaranteed	
4.4 Mgmt planning shall incorporate social impact assessment, consultation maintained with affected parties	other parties, such as water users downstream, are consulted in addition to adjacent landowners no specific time-frame given for consultation
4.5 Measures taken to avoid loss or damage of legal/customary rights (etc.) of local people; compensation mechanism if loss/ damage occurs	
Public comments on Principle 4: Social a great deal of concern over local hiring requirements/ definition of who is local counter productive to sustainable forestry to restrict forest owners choice of markets/ products recognition of migrant workers as legitimate stakeholders concern that this standard is trying to perform "social engineering", over-ideological (eg: Living Wage Standard- 1 worker being able to support a family of 4)	
Principle 5	
5.1 Management aims at economic viability, while considering social & envrt "full cost"	mainly concerns financial strength of company to support long-term management, investment in the community no discussion of what constitutes "long-term

Copyright © 2001, Province of British Columbia. All rights reserved.

FSC International	FSC US Draft
	sustainability", or cost-benefit analysis
5.2 Encourage optimal use and local processing of wood	emphasis on economic justification and feasibility for local and value-added processing "...technical and financial specifications of forest product sales are scaled to allow successful competition by small businesses"
5.3 Minimize waste, avoid damage to other resources	"threshold" approach to retaining CWD; beyond this, forest products should be used as efficiently as possible
5.4 Strengthen and diversify local economy	reliable supply for local processing
5.5 Maintain other forest resources such as watersheds, fisheries	
5.6 Rate of harvest is sustainable	no time frame given (10 years given as an example), but harvest levels must be justified as sustainable through documented growth and regeneration data, site index models, and soil classifications
Public comments on Principle 5: Economic regarded as too broad, overlapping with environmental requirements definition of long term sustained yield debated using the term "economically justifiable" is incompatible with the FSC-US's own requirement (App. A) that indicators not contain any qualifying clauses	
Principle 6	
6.1 envrt. impact assessment done prior to operations	very little detail given re: potential environ. impacts
6.2 Conservation of rare species and their habitat	"where sensitive, rare or endangered species are present, *modifications are made* in both the management plan and its implementation (ie, very non-prescriptive)
6.3 Ecological function is maintained or enhanced	old growth forestry permitted when : locally abundant consistent with NDTs the stand has reached "over-maturity"
6.4 Representative samples of ecosystems protected, recorded	fairly detailed protected areas description
6.5 Written guidelines: erosion control forest damage road construction water resources	
6.6 Pest management guidelines	*preferentially relies upon* non-pesticide methods of pest control, *minimize* chemical use
6.7 Disposal of "special wastes"	
6.8 Use of biological control agents documented, minimized; no genetically engineered organisms	allowed only as part of a pest management strategy where other methods have proved to be ineffective
6.9 Use of exotic species controlled/ monitored	must meet "non-invasive" criteria
6.10	

Copyright © 2001, Province of British Columbia. All rights reserved.

FSC International	FSC US Draft
Conversion to plantation forestry	
Public comments on Principle 6: Ecological major concerns over economic feasibility of environmental impact assessment required, could "sink the ship", controversy over picking a historical ecological "baseline". The terms "sensitive" and "rare" species lack definition; distinction needed between "conservation" and "protection" zones objection to using the term "over mature" for describing old growth, OG needs proper definition debate over whether private owners need reserves on their land if there are large reserves nearby Requiring both a) minimal mechanical site preparation and b) no use of chemicals is problematic. Concern that "Best Management Practices" vary by state, and will result in an uneven playing field. 6.8 Controversy over GMOs being banned 6.9 Point made that other FSC jurisdictions have been allowed to use exotic species, why not in US	
Principle 7	
7.1 The management plan and supporting documents shall provide these basic requirements:	
a) objectives	
b) mgmt area profile	
c) description of silviculture, etc.	
d) rationale for rate of harvest/ sp. Selection	harvest does not *significantly* exceed growth
e) provisions for monitoring	defers to P.8
f) environmental safeguards	defers to P 6.1
g) protection plans for rare species	defers to P. 6.3
h) maps for mgmt purposes	
i) description and justification for harvesting techniques	
7.2 Management plan adapts to changing conditions, incorporates results of periodic monitoring.	
7.3 Forest workers shall be adequately trained to implement the plan	
7.4 While respecting confidentiality, managers shall make publicly available a summary of the plan.	
Public comments on Principle 7: Forest Management Plan Profiling adjacent lands inappropriate, Re: public summaries; revealing inventory volumes, rates of growth is sensitive proprietary data	
Principle 8	
8.1 Monitoring suitable to operation and envrt, consistent over time	items to monitor "may include...." (ie, as opposed to "including, but not limited to...")
8.2 Monitoring requirements (yield, growth, composition, impacts, operational economics)	
8.3 "Chain of Custody" documentation	defers to S3.6 of FSC Chain of Custody standards
8.4 Results of monitoring incorporated in plan revision	
8.5	summary made available at reasonable price

Copyright © 2001, Province of British Columbia. All rights reserved.

FSC International	FSC US Draft
Summary of monitoring results made public	
Public comments on Principle 8: Monitoring concern about small owners being able to afford this level of monitoring, maintaining privacy while communicating SFM practices to the public is the main reason to hire a certifier	
Principle 9	
9.1 Assessment to determine the presence of HCVF will be completed	assessment includes input from P. 9 working group and stakeholders as well as applicant (finalized on map by certifying body)
9.2 Consultation must emphasize the identified conservation attributes	
9.3 The mgmt plan shall include measures to ensure conservation using the precautionary approach/ measures made public	specifically addresses forests that are intact (defined as: unroaded/ lightly roaded, no evidence of previous logging, sufficient size to maintain ecological integrity), rare, threatened or endangered according to WWF, WRI, Nature Conservancy or Conservation International
9.4 Annual monitoring done to assess if the measures employed are achieving their conservation objectives	no national indicators suggested
Public comments on Principle 9 High Conservation Value Forests HCVF attributes should be assessed by scientists... all other parties are secondary. General unease with lack of definition of who constitutes a "stakeholder"	
Principle 10	
10.1 Mgmt objectives of the plantation explicitly stated and demonstrated	
10.2 Plantation should protect, restore and conserve natural forests. Plantation should maintain wildlife corridors, streamside zones etc.	even aged harvests limited to forty acres unless a larger opening can be *justified scientifically*
10.3 Plantation composition diversity that enhances economic ecological and social stability is encouraged/ preferred	
10.4 Plantation species shall be based on site suitability/ management objectives; use native sp. unless exotics perform better and can be carefully monitored.	
10.5 Part of the area shall be restored to natural cover.	Regional Working Groups determine maximum proportion of plantations allowed within certified area
10.6 Measures taken to improve soil structure, fertility and biol. activity, avoid adverse impact on natural hydrological attributes	no national indicators given
10.7 Measures taken to minimize pest outbreak, fire, invasive plants, Integrated Pest Management (IPM) included in the plan, minimize/ phase out the use of chemicals,	no national indicators given

Copyright © 2001, Province of British Columbia. All rights reserved.

FSC International	FSC US Draft
fertilizers	
10.8 Regular social and ecological impact monitoring	no national indicators given
10.9 Plantations converted to plantations after 1994 will not qualify for certification; unless it can be proven that the manager/ owner is not responsible for such a conversion	allows exceptions based on suitability of restoration plan
Public comments on Principle 10: Plantations One person felt that NO plantations should be considered sustainable, only natural ones. Controversy over what constitutes "exotic species", and why this is allowed in other jurisdictions, but not in the USA	

Copyright © 2001, Province of British Columbia. All rights reserved.

Appendix B: Table of SFI Program Licensees[3]

Licensee	Acres	Hectares
Blandin Paper Company	193,000	78,103
Boise Cascade	500,000	202,339
Burns, Morris, & Stewart, L.P., TX (secondary manufacturer)	0	0
Champion International Corporation	5,400,000	2,185,262
Clemson University, SC	17,500	7,082
Fraser Papers Inc.,Edmundston, NB Canada	1,980,000	801,263
Fynch and Prune,Inc, NY	166,000	67,177
Georgia Pacific (*manufacturing)	0	0
HHP, Inc., NH (sawmill only)	0	0
Ida Cason Callaway Foundation, GA	11,000	4,451
International Forest Products B.C.	7,900,000	3,196,957
Itasca County Land Department, MN	300,000	121,403
J.D. Irving, St. John, NB Canada	2,000,000	809,356
J.G. Gray Estate-Stream Companies, LA	12,000	4,856
J.M. Jones Lumber Company, Inc., MS	125,000	50,585
Lake County Land Department, MN	148,769	60,204
Litchfield Park Corporation, NY	12,000	4,856
Louisiana Pacific	900,000	364,210
Massachusetts Department of Environmental Management	285,000	115,333
Mead Paper	2,087,513	844,771
Missouri Dept. of Conservation, MO	534,000	216,098
Neiman Sawmills, Inc, WY (sawmill only)	0	0
Nicolet Hardwoods Corporation, WI	34,714	14,048
Northern Hardwoods, MI	120,000	48,561
Pacific Lumber Company (not yet certified)	0	0
Paul Smith's College, NY	12,500	5,058
Plum Creek	3,320,418	1,343,700
Rayonier	0	0
Seneca Jones Timber Company, OR	166,206	67,260
Seven Islands Land Company	975,000	394,561
Shelter Bay Forests, MI	400,000	161,871
Society for the Protection of NH Forests, NH	32,000	12,950
St. Louis County Land Department, MN	899,893	364,167
Stora Enso, Wisconsin, Michigan and Minnesota	365,000	147,707
The Ames Plantation, TN	14,500	5,868
The Cathlamet Timber Company-The Campbell Group, WA	117,000	47,347
The Conservation Fund, NY, VT & MD	37,200	15,054
VKW Hardwoods, MI (manufacturer)	0	0
Western Upper Peninsula Forest Improvement District, MI	144,834	58,611
Willamette	1,702,740	689,062

[3] This is not necessarily an exhaustive list, it was formed through compiling public sources.

Copyright © 2001, Province of British Columbia. All rights reserved.